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BEARING WITH REMOVABLE CAP PIECE

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Fig. 1

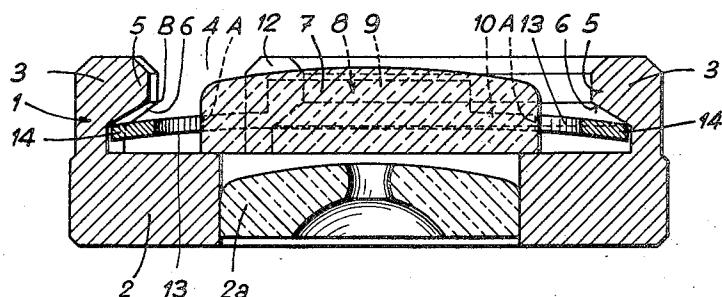
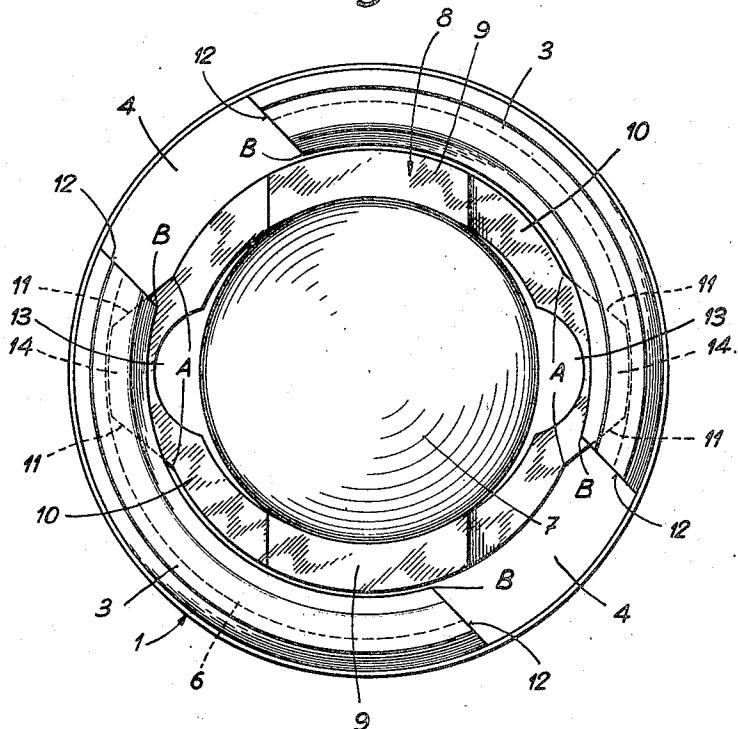


Fig. 2



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BEARING WITH REMOVABLE CAP PIECE

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6 Claims. (Cl. 58—140)

This invention relates to bearings with a removable cap piece for timepieces, measuring apparatus and the like, in particular to bearings in which a body member carries a fixed pierced element and a cap or end piece also fixed, but removable, said cap piece consisting of a jewel fixed to a metallic setting.

It is an object of the invention to provide the setting of the cap piece in one piece, approximately annular, with thick and rigid sectors to hold the jewel and intermediate thin resilient sectors for fixing the cap piece in the body member.

Still further objects will become apparent from the following disclosure.

One embodiment of the bearing according to the invention is represented diagrammatically and by way of example in the drawings annexed to this specification and forming a part thereof.

In the drawings:

Fig. 1 is a diametrical cross-section of the bearing, whereas

Fig. 2 is a plane view thereof.

The bearing represented in the drawings comprises a body member 1 having a hollow cylindrical portion 2. A pierced jewel 2a, which serves for journaling a pivot, is set with force fit in portion 2. The outer cylindrical surface of this portion 2 may be engaged also with force fit into a bore provided either in a bridge or the base-plate of a timepiece, an apparatus or the like.

The annular portion 2 of body 1 carries two projections 3 situated above it and made integral therewith, first by turning and then by milling the passages 4. A rim 5 with a conical lower face 6 is provided on each projection 3.

An end or cap piece comprising a cap jewel 7 and a setting 8 bears on the rims 5.

As shown in the drawings, in particular in Fig. 1, the setting 8 has not overall the same thickness. It is actually provided with two comparatively thick and rigid sectors 9, by means of which it is fixed to the cap jewel 7. In the two remaining intermediate sectors 10 this setting 8 is substantially thinner, so as to form resilient elbows. As shown in Fig. 2, the parts 10 of setting 8 extend at a certain distance of the cap jewel 7 so that these parts may freely bend under a strain, the setting having, however, substantially overall the same width.

The particular form of these parts 10 has been chosen on the one hand so that, for instance, the two pointed ends of a pair of tweezers may be engaged between these parts and jewel 7 for rotating the cap piece (7, 8) around the bearing axis, and on the other hand, so that each edge 11 of these parts 10 forms with the radius of setting 8 which passes through the corner A an angle which is larger than those defined by each end face 12 of rim portions 5 with a radial plane passing through the point B which represents the inner edge of the end face.

In order to disassemble the bearing represented and described above, the pointed ends of a pair of tweezers

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need only be inserted in the lunulate spaces 13 formed between jewel 7 and parts 14 of setting 8. The latter can then be rotated together with jewel 7, until the parts 14 come in the passages 4. Assembling this bearing consists of the reversed steps.

It will be observed in that respect that the engagement of parts 14 under the rims 5 may be achieved without requiring any axial pressure onto these parts 14. The comparative values of the angles defined by edges 11 of parts 14 and the end faces 12 of rims 5 with said radii and said radial planes, respectively, provide for an easy engagement of parts 14 under rims 5. The engagement of parts 14 under rims 5 begins indeed in the vicinity of edges B. In other words, parts 14 pass first under the highest portions of rims 5 above portion 2 of body 1. As shown in Fig. 1 the inner lower edge of rim 5 is high enough so that the edges 11 of parts 14 of setting 8 may pass under said edge without deforming parts 10 of setting 8 downwards. When further rotating the setting 8 after two of its edges 11 are already engaged in part under the two rims 5, the conical faces 6 of these rims 5 automatically bend the resilient sectors 10 of setting 8 downwards, as shown in Fig. 1.

The sizes of setting 8, in particular of its parts 10, are chosen so that these parts firmly hold jewel 7 in place in body member 1.

It should be observed that setting 8 may be manufactured first by stamping and then by milling so as to leave parts 10, which extend from the lower portion of setting 8.

While one embodiment of the invention has been shown and described in detail, it should obviously be understood that various changes in the shape, sizes and arrangement of parts could be resorted to without departing from the scope of the subjoined claims or sacrificing the advantages thereof.

I claim:

1. In a bearing for a timepiece, a measuring apparatus or the like, the combination of a body member formed with substantial symmetrical internal rim portions, a pierced member fixed to said body member, a one-piece annular metallic setting having overall substantially the same width and comprising thick rigid and thin resilient symmetrical sectors alternately formed around said setting, and a cap jewel firmly held by said thick sectors, said thin and resilient sectors extending at a certain distance from said cap jewel, each of said thin sectors having at least a part which forms a lunulate space with said cap jewel, said sector parts thereby being so arranged that they may be placed either under said rim portions in order to fix said setting in said body member or between said rim portions in order to enable assembling or disassembling said setting and said body member.

2. In a bearing for a timepiece, a measuring apparatus or the like, the combination of a body member formed with substantially symmetrical internal rim portions, a pierced member fixed to said body member, a one-piece annular metallic setting having overall substantially the same width and comprising thick rigid and thin resilient symmetrical sectors alternately formed around said setting, and a cap jewel firmly held by said thick sectors, said thin and resilient sectors extending at a certain distance from said cap jewel and being so arranged that they may be placed either under said rim portions in order to fix said setting in said body member or between said rim portions in order to enable assembling or disassembling said setting and said body member.

3. In a bearing for a timepiece, a measuring apparatus or the like, the combination of a body member formed with substantially symmetrical internal rim portions, a pierced member fixed to said body member, a one-piece

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annular metallic setting having overall substantially the same width and comprising thick rigid and thin resilient symmetrical sectors alternately formed around said setting, and a cap jewel firmly held by said thick sectors, said thin and resilient sectors thereby being so arranged that they may be placed either under said rim portions in order to fix said setting in said body member or between said rim portions in order to enable assembling or disassembling said setting and said body member.

4. In a bearing for a timepiece, a measuring apparatus or the like, the combination of: a body member having a hollow cylindrical portion and substantially symmetrical internal rim portions extending above said hollow portion, around the axis of said body member, so that passages remain free between each pair of adjacent rim portions, said rim portions having each a lower face bevelled so that the inner edge of said face is situated higher above said hollow portion than the outer edge of this face; a pierced member fixed to said body member in said hollow portion; a one-piece annular metallic setting so arranged that it may be set in said body member on said hollow portion and at least in part below said rim portions, said setting comprising thin resilient symmetrical projections at its periphery so that said thin projections have each an upper face situated at a level comprised between those of said inner and said outer edges

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of the lower face of said rim portions, when said setting is placed in said body member; and a cap jewel fixed to said setting, said thin and resilient projections thereof being adapted to be either engaged under said rim portions of the body member in order to fix said setting in said body member, or placed in said passages in order to enable assembling or disassembling said setting and said body member, each projection having two side edges arranged so that each one forms with the radius of the

10 setting passing through its inner point an angle which is greater than those formed by each end face of said rim portions with the radial plane of the body member passing through the inner edge of said end face.

15 5. An arrangement as defined in claim 4, wherein said setting comprises also thick, rigid portions by which said cap jewel is fixed to said setting.

6. An arrangement as defined in claim 5, wherein said rigid portions are sector-shaped and arranged symmetrically with respect to said projections.

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